What Is Claimed Is:

1. A switch for directing the path of a light signal, said switch comprising:

a member comprising an opening and a reflecting surface;

first, second and third light transmitting elements, said first and third elements being disposed to receive first and second light signals from said member; and

means for moving said member so as to selectively position said opening intermediate said first and second light transmitting elements, so as to optically couple said first and second light transmitting elements.

2. A switch according to claim 1 wherein said member movement means selectively position said reflector intermediate said first and second light transmitting elements, so as to optically couple said first and third light transmitting elements.

3. A switch according to claim 1 wherein said actuator moves said member so as to selectively position said opening intermediate a portion of the optical path between said first and second light transmitting elements and simultaneously position said reflecting surface intermediate another portion of the optical path between said first and second light transmitting elements, so as to optically couple said first and second light transmitting elements and, simultaneously, to optically couple said first and third light transmitting elements.

4. A switch according to claim 1 wherein said member comprises a cantilever beam having a mirror surface containing a hole.

5. A switch according to claim 1 wherein said first, second and third light transmitting elements comprise fiberoptic elements.

6. A switch according to claim 1 wherein said actuator device comprises a microelectromechanical (MEM) device.

7. A switch according to claim 1 further comprising a plurality of sets of first, second and third light transmitting elements, and said member further comprising a plurality of openings and reflectors corresponding with said sets of light transmitting elements.

8. A switch according to claim 7 wherein said holes have a direct, one-to-one correlation with said sets of light transmitting elements.

9. An optical attenuator comprising:

a member comprising an opening and a reflecting surface;

first, second and third light transmitting elements, said first and third elements being disposed to receive first and second light signals from said member; and

means for moving said member so as to selectively position said opening intermediate a portion of the optical path between said first and second light transmitting elements.

10. An optical attennuator according to claim 9 wherein said member movement means simultaneously position said reflector intermediate another portion of the optical path between said first and second light transmitting elements, so as to optically couple said first and second light transmitting elements, and simultaneously, to optically couple said first and third light transmitting elements.

11. An optical attenuator according to claim 9 wherein said member movement means selectively position said hole intermediate said first and second light transmitting elements, so as to optically couple said first and second light transmitting elements.

12. An optical attennuator according to claim 9 wherein said member movement means selectively position said reflector intermediate said first and second light transmitting elements, so as to optically couple said first and third light transmitting elements.

13. An optical attenuator according to claim 9 wherein said member comprises a cantilever beam having a mirror surface containing an opening.

14. An optical attenuator according to claim 9 wherein said first, second and third light transmitting elements comprise fiberoptic elements.

15. An optical attenuator according to claim 9 wherein said actuator device comprises a microelectromechanical (MEM) device.

16. An optical attenuator according to claim 9 further comprising a plurality of sets of first, second and third light transmitting elements, and said member further comprising a plurality of openings and reflectors corresponding with said sets of light transmitting elements.

17. An optical attenuator according to claim 12 wherein said openings have a direct, one-to-one correlation with said sets of light transmitting elements.

18. A method for fabricating a switch for directing the path of a light signal, said method comprising:

selecting a SOI wafer having two silicon layers and a layer of silicon dioxide therebetween;

patterning the top and bottom sides of said wafer;

etching an initial portion via-hole in said bottom side of said silicon wafer;

etching at least one V-groove and depositing a mirror on said top side of said silicon wafer;

growing a thin layer of silicon dioxide on said at least one V-groove and said mirror;

removing a film of silicon nitride on said silicon wafer, said silicon nitride film being formed during manufacture of said wafer;

etching an opening in said mirror;

removing said thin layer of silicon dioxide from said mirror surface, and removing a portion of said layer of silicon dioxide in said top side of said silicon wafer to form a via-hole through the entirety of said wafer, wherein said via-hole is formed between the edges of said initial portion via-hole in said

bottom side of said silicon wafer and said via-hole is formed between the edges of said mirror and said V-grooves in said top side of said silicon wafer;

oxidizing said wafer with silicon dioxide;

metalizing first and second surfaces of said wafer, said first and second surfaces forming first and second electrodes, respectively; and

applying contact pads to said silicon wafer in electrical connection to said electrodes.

19. A method for fabricating a switch for directing the path of a light signal according to claim 18 wherein the step of realizing a via-hole in said bottom side of said silicon wafer includes using a wet etchant.

20. A method for fabricating a switch for directing the path of a light signal according to claim 19 wherein said wet etchant is KOH.

21. A method for fabricating a switch for directing the path of a light signal according to claim 18 wherein the step of realizing said V-grooves and

said mirror in said top side of said silicon wafer includes using a wet etchant.

22. A method for fabricating a switch for directing the path of a light signal according to claim 21 wherein said wet etchant is KOH.

23. A method for fabricating a switch for directing the path of light according to claim 18 wherein the step of removing a film of silicon nitride formed on said silicon wafer includes using deep reactive ion etching.

24. A method for fabricating a switch for directing the path of light according to claim 18 wherein the step of realizing an opening in said mirror includes using deep reactive ion etching.

25. A method for fabricating a switch for directing the path of light according to claim 24 wherein the step of realizing an opening in said mirror further comprises two timed applications of deep

reactive ion etching wherein said opening is realized at the conclusion of said applications.

26. A method for fabricating a switch for directing the path of light according to claim 18 wherein the step of removing said thin layer of silicon dioxide from said mirror surface, and removing said layer of silicon dioxide to form a via-hole through the entirety of said wafer includes using a buffered oxide etchant to remove said silicon dioxide.

27. A method for fabricating a switch for directing the path of light according to claim 18 wherein the step of oxidizing said wafer with silicon dioxide includes oxidizing said wafer with a layer of about 100 nm of silicon dioxide.

28. A method for fabricating a switch for directing the path of light according to claim 18 wherein one of said first and second metalized surfaces is a reflecting surface of said mirror.

29. A method for fabricating a switch for directing the path of light according to claim 18 wherein the step of metalizating said first and second surfaces of said wafer comprises covering said surfaces with an adhesive substance and then with an electrode substance.

30. A method for fabricating a switch for directing the path of light according to claim 29 wherein said adhesive substance is chrome.

31. A method for fabricating a switch for directing the path of light according to claim 30 wherein said electrode substance is gold.

32. A method for fabricating an optical attenuator, said method comprising:

selecting a SOI wafer having two silicon layers and a layer of silicon dioxide therebetween;

patterning the top and bottom sides of said wafer;

etching an initial portion via-hole in said bottom side of said silicon wafer;

etching at least one V-groove and depositing a mirror on said top side of said silicon wafer;

growing a thin layer of silicon dioxide on said at least one V-groove and said mirror;

removing a film of silicon nitride on said silicon wafer, said film formed during manufacture of said wafer;

etching an opening in said mirror;

removing said thin layer of silicon dioxide on said mirror surface, and removing a portion of said layer of silicon dioxide in said top side of said silicon wafer to form a via-hole through the entirety of said wafer, wherein said via-hole is formed between the edges of said initial portion via-hole in said bottom side of said silicon wafer and said via-hole is formed between the edges of said mirror and said V-grooves on said top side of said silicon wafer;

oxidizing said wafer with silicon dioxide;

metalizing first and second surfaces of said wafer, said first and second surfaces forming first and second electrodes, respectively; and

applying contact pads to said silicon wafer in electrical connection to said electrodes.

33. A method for directing the path of a light signal, said method comprising:

providing a switch for directing the path of a light signal, said switch comprising:

a member comprising an opening and a reflecting surface;

first, second and third light transmitting elements, said first and third elements being disposed to receive first and second light signals from said member; and

means for moving said member so as to selectively position said hole intermediate said first and second light transmitting elements, so as to optically couple said first and second light transmitting elements;

positioning said hole of said member intermediate first and second light transmitting elements, wherein said switch optically couples said first and second light transmitting elements.

34. A method for directing the path of a light signal of claim 33 wherein said member movement means

selectively position said reflecting surface intermediate said first and second light transmitting elements, so as to optically couple said first and third light transmitting elements, said method further comprising a method step of positioning said reflecting surface, wherein said switch optically couples said first and third light transmitting elements.